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(54) **Ferromagnetic thin film and magnetic head using it.**

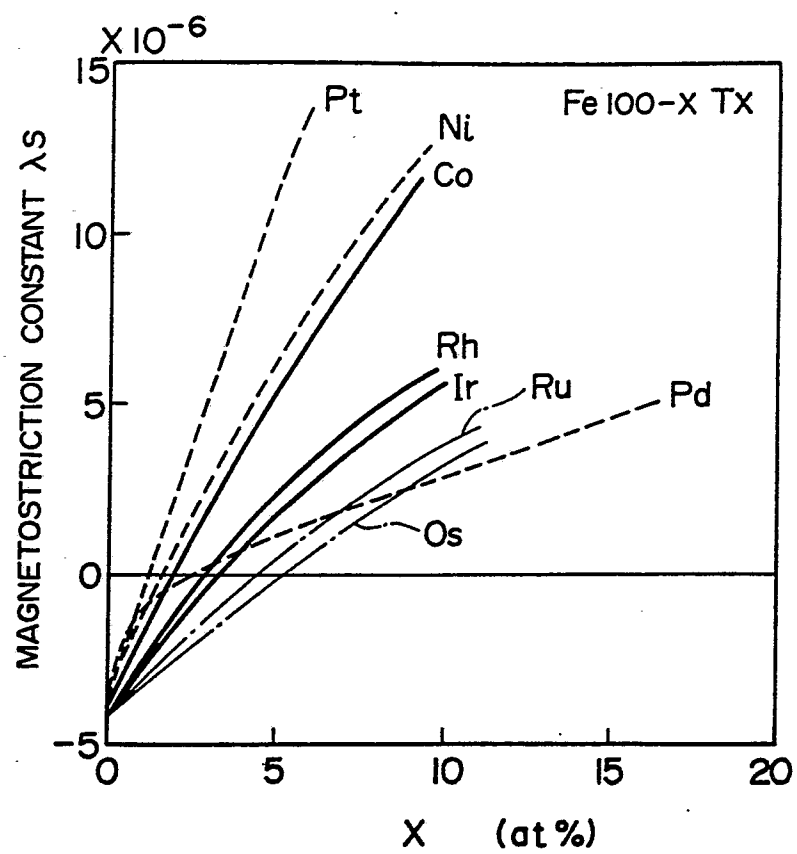
(57) A ferromagnetic thin film (23, 34, 53) containing Fe as a main component and at least one additive element selected from the group consisting of Co, Ni, Ru, Rh, Pd, Os, Ir and Pt, in which the total content of the at least one additive element is not less than 0.1 at% and additive contents a, b, c, d, e, f, g and h (at%) respectively of said Co, Ni, Ru, Rh, Pd, Os, Ir and Pt satisfy

$$\frac{a}{4} + \frac{b}{3.5} + \frac{c}{10} + \frac{d}{7} + \frac{e}{13} + \frac{f}{11} + \frac{g}{8} + \frac{h}{2.5} < 1.$$

The ferromagnetic thin film thus disclosed has a high saturation flux density of 18 KG or more, a magnetostriction constant close to zero, and excellent corrosion resistance. There is also disclosed a magnetic head using the above described ferromagnetic thin film in at least a part of a magnetic circuit thereof.

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FIG. 4





EP 87 30 1470

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
X	ZEITSCHRIFT FÜR ANGEWANDTE PHYSIK, vol. 26, no. 2, February 1969, pages 141-145; H. HOFFMANN et al.: "Die Abhängigkeit der Sättigungsmagnetostriktion von der Legierungszusammensetzung ferromagnetischer Aufdampfschichten" * figure 6 * ---	1,2	H 01 F 10/16 H 01 F 10/14 H 01 F 41/18 G 11 B 5/31
A	LANDOLT-BÖRNSTEIN: "Zahlenwerk und Funktionen aus Physik, Chemie, Astronomie, Geophysik und Technik"; 6th edition, "Eigenschaften der Materie in ihren Aggregatzuständen", part 9, 'Magnetische Eigenschaften', 1962, pages 1-129 - 1-133, Springer Verlag, Berlin, DE * Figures 8,10,21 * ---	1,2	
A	EP-A-0 144 150 (HITACHI LTD) * Claims 1,8,9,12-16 * -----	1-8	TECHNICAL FIELDS SEARCHED (Int. Cl.4) H 01 F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12-04-1989	Examiner VITZTHUM N.A.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			